STATE OF CALIFORNIA **CALIFORNIA INTEGRATED WASTE MANAGEMENT BOARD**

Base Year Modification Request Certification
Part 2: Generation Study - Includes Extrapolation of Residential or Non-Residential Diversion Data

To request a substitution for a previously approved base year used in calculating the diversion rate for your jurisdiction, please complete and sign this form and return it to your Office of Local Assistance (OLA) representative at the address below, along with any additional information requested by OLA staff. When all documentation has been received, your OLA representative will work with you to prepare for your appearance before the Board. If you have any questions about this process, please call (916) 341-6199 to reach your OLA representative.

Mail completed documents to:

California Integrated Waste Management Board
Office of Local Assistance (MS - 25)
1001 I Street
PO Box 4025 (mailing address)
Sacramento, CA 95812-4025

General Instructions:
Please check the box for the **ONE** choice below that best explains your request to the Board.

☑ 1. Use a recent generation-based study to calculate our current reporting year generation amount, but not officially change our existing Board-approved base year.

☐ 2. Use a recent generation-based study to officially change our existing Board-approved base year to a new base year.

The shaded cells on these sheets are protected . If you have problems using these sheets, please contact your Office of Local Assistance representative by calling (916) 341-6199.

Section I: Jurisdiction Information and Certification *All respondents must complete this section.*			
I certify under penalty of perjury that the information in this document is true and correct to the best of my			
Jurisdiction Name **Town of Hillsborough**		County **San Mateo**	
Authorized Signature Anthony Constantouros		Title Town Manager	
Type/Print Name of Person Signing		Date 9-20-01	Phone ( ) Include Area Code
Anthony Constantouros			(650) 375-7409
Person Completing This Sheet (please print or type)		Title	
Nanette Sartoris		Senior Associate, Environmental Science Associates	
Affiliation:	Consultant		
Mailing Address	City	State	ZIP Code
225 Bush Street, Suite 1700	San Francisco	CA	94104-4207
E-Mail Address: nsartoris@esassoc.com			

Section II: Information for New Generation-Based Study

Attach additional sheets if necessary—reference each response to the appropriate cell number (e.g., "4").

Note: New base years must be representative of a jurisdiction's disposal and diversion.

1. Current Board-approved existing base year:	2. Proposed new generation-based study year:
1991 [Revised 1991 BY approved Sept. 1999]	**2000**

3. Explain how the proposed generation study year is representative of average annual jurisdiction disposal and diversion:

The Town believes that the 2000 generation rate enumerated here is representative of the average annual jurisdiction disposal in recent years, and that disposed tons reflect a decrease from 1999 consistent with diversion program implementation during 2000.

Hillsborough has implemented all of the programs selected in its SRRE, or suitable alternatives, and in addition has designed and implemented new programs to target the construction and demolition wastestream, after the Town gained an understanding of the size and diversion potential of this wastestream during its petition process for a revised 1991 base year in 1999. The Town is nearly entirely residential; it has no commercial areas with the exception of the Burlingame Country Club, no industry and few institutional waste generators. Non-residential waste generated in the Town consists almost entirely of construction and demolition materials. In addition to its recent C&D diversion efforts, the Town has continued to emphasize programs targeting the residential sector; program activity in 2000 is described in the PARIS Report notes submitted separately and electronically as part of its 2000 Annual Report.

The Town believes that the 2000 diversion tons reported here are representative of actual diversion in 2000 and reflect the efforts focused on the construction and demolition wastestream. For the past two years, use of the Board's Adjustment Methodology has underestimated diversion compared to generation-based counts. As an example of the increased effectiveness of programs, the tons diverted under the Town's residential greenwaste collection program has more than tripled (from 528 tons to 1,891 tons) since 1997. The Town's aggressive C&D efforts described below have substantially increased the Town's diversion and are assumed to account for the downward trend in the Town's disposal in 2000 and the first half of 2001. The Town's C&D program efforts include:

- A program at the Transfer Station that segregates and recovers loads of clean rock, concrete, and asphalt roofing;
- A resolution requiring contractors to prepare waste management plans prior to issuance of a building or demolition permit, and to divert at least 50 percent of the waste associated with the project through salvage and recycling;
- A part-time staff member who implements, promotes, and tracks the effectiveness of the C&D Program;
- Recovery of C&D material and debris box materials at Ox Mountain Landfill.

For these reasons, the Town believes the proposed generation study year is representative of actual generation in the Town in 2000.

4. Enter diversion rate information below.

Diversion rate calculated using existing base year	**a. 39*%**	**Diversion rate calculated using new generation-based study**	**b. 53%**
For existing base year pounds/person/day based on generation	**7.8**	**For new generation based study pounds/person/day based on generation**	**10.2**
Residential 57.1* % Non-Residential	**42.9* %**	**Residential 43.6 % Non-Residential**	**56.4 %**
Population existing generation-based study	**11,700**	**Population new generation-based study**	**11,700**

* *As part of the Town's Board-approved petition for a reivised 1991 Base Year, the residential/non-residential generation split was revised as reflected here. These changes have not been updated in the Diversion Rate Calculator on the Board's website.*

5. If there is an increase from 4a to 4b, please explain how the new diversion rate is consistent with your current diversion implementation efforts. If the proposed new generation tonnage results in an increase in your pounds/person/day, please explain how this is consistent with your current diversion implementation efforts and provide examples (e.g., change in jurisdiction's demographics).
Regarding diversion implementation efforts, see response to Question 3 above and PARIS Report program notes submitted separately and electronically as part of the 2000 Annual Report process. The Town has documentation to substantiate all diversion claims for 2000. The proposed new generation tonnage results in an increase in the per capita generation rate from 7.8 to 10.2 pounds/person/day when comparing the generation calculated using the existing base year to that calculated as part of this generation-based study. The per capita generation rate calculated based on this generation-based study is higher than the statewide average, but below the national per capita generation rate. However, the 2000 generation tonnage reported for Hillsborough is based on actual disposal and diversion tonnage. The higher-than-average per capita generation rates in 2000 can be explained in part by the affluence of Town residents (who presumably consume and dispose more than the State per capita average) and the construction and demolition boom experienced by the Town.
6. If the difference between the proposed diversion rates in 4a and 4b is greater than 5 percentage points, please explain the specific reasons for the difference. (For example: new/improved curbside diversion programs.)
See response to Question 3 above. The actual number of diverted tons that has been reported to the Town by the franchised service provider has increased steadily from 1995 to the present. The Town believes that 2000 disposal is representative of current conditions, and that the diversion rate calculated for 2000 is reasonable, supportable, and consistent with the Town's diversion program efforts, especially in light of the program's aggressive C&D program. Documentation of all diverted and disposed tons is available upon request.

7. Disposal Tonnage (enter values):	4345	5868	10213
	Residential	Non-Residential	Total

Please select the ONE choice below that best explains your **disposal** data and complete the required tables.

- ☑ a. All tons claimed are from the Board's Disposal Reporting System (No explanation required. Go to Section 8.)
- ☐ b. All tons claimed are from a 100 percent audit of hauler and self-haul tonnage. (Please complete Reporting Year Tonnage Modification Request and
- ☐ c. Some Disposal Reporting System data were corrected. (Please complete Reporting Year Tonnage Modification Request and Certification sheet found at www.ciwmb.ca.gov/LG Central/Forms/rytnmdrq.doc)

8. In the table below, list the summarized diversion activities and diversion data records that support your claim and are available for Board audit. (**Note:** *the Board expects the jurisdictions to be able to provide all backup documentation, if requested.*) Include type of record and location—for example, weight tickets from transfer stations. This section should capture all diversion tonnage (sheet will perform all addition calculations). If any diversion is from restricted wastes (i.e., agricultural wastes, inert solids [e.g. concrete, asphalt, dirt, etc.], white goods, and scrap metal), please identify those programs/waste types and fill out section 11. **Note:** *Restricted waste material should not be extrapolated in non-residential waste audits*. Please mark as attachment 8 all copies of survey sheets.

* Please provide detailed non-residential waste audit information in Section 9.

Note: The Board has indicated that it will be scrutinizing total source reduction amounts greater than 5% of total generation. Please be prepared to provide additional details substantiating your claim.

Diversion Activity Please use the Board's program types. The program type glossary is online at: www.ciwmb.ca.gov/LGCentral/PARIS/Codes/Reduce.htm	Actual Tons (A)	Estimated or Extrapolated Tons (B)	Total Tons (A+B)	Relative Percent to Total Generation (A+B)/Total Generation	Specific Material Type(s) (List programs with multiple materials together)	Specific Conversion Factor Used (if any) and Source	Type of Record and Location of Record
Residential Source Reduction Activities							
Backyard Composting	106.0	0.0	106.0	0.5%	Organic Matter	646 lbs/bin/year; San Mateo County Composting Program	Bin Distribution Record; San Mateo County Composting Coordinator
Other Residential Source Reduction (list each program separately)							
Diaper Services	2.3	0.0	2.3	0.0%	Textiles (Diapers)	Baby's Diaper Services; tons reported distributed throughout County on basis of population	ESA 1997 Diversion Survey; ESA Database
Thrift Stores	0.0	285.3	285.3	1.3%	Misc.	Thrift store staff; tons reported allocated on basis of information provided by thrift store staff.	ESA 1997 Diversion Survey; ESA Database
Subtotal, Res. Source Reduction	**108.3**	**285.3**	**393.6**	**1.8%**			
Residential Recycling Activities							
Curbside Recycling	1,710.0	N/A	1,710.0	7.8%	OCC, ONP, MP, Bottles & Cans	NA	BFI MIS Reports for 2000; San Carlos TS & Ox Mountain LF
Buyback Centers		N/A					
Drop-off Centers		N/A					
Other Residential Recycling (list each program separately)							
CRV - Redeemed Beverage Containers	236.0	0.0	236.0	1.1%	Beverage containers (glass, plastic, and aluminum)	Tons allocated on per capita basis.	Aggregate Volume Report for San Mateo County in 2000; Department of Conservation, Division of Recycling.
Subtotal, Residential Recycling	**1,946.0**	**0.0**	**1,946.0**	**8.9%**			
Residential Composting Activities							
Green Waste Drop-off	939.0	N/A	939.0	4.3%	Plant material and wood	Assumes 85% of self-hauled green waste reported by BFI is residential.	BFI MIS Reports for 2000; San Carlos TS & Ox Mountain LF
Curbside Green Waste	1,891.0	N/A	1,891.0	8.7%	Plant material, includes Christmas trees	NA	BFI MIS Reports for 2000; San Carlos TS & Ox Mountain LF
Christmas Tree Program		N/A					
Other Residential Composting (list each program separately)							
		N/A					
Subtotal, Residential Composting	**2,830.0**	**0.0**	**2,830.0**	**13.0%**			
Subtotal, Residential Diversion	**4,884.3**	**285.3**	**5,169.6**	**23.7%**			

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Non-Residential Source Reduction Activities							
Non-Residential Waste Audits*			0.0		See Section 9	See Section 9	See Section 9
Other Non-Residential Source Reduction (list each program separately)							
Grasscycling - Burlingame Country Club; Hillsborough Unified Schools	440.5	N/A	440.5	2.0%	Grass clippings	250 lbs/1,000 sq. ft./year.	ESA 1999 Diversion Study; ESA database
Kitchen Scrap Composting - Burlingame Country Club	2.0	N/A	2.0	0.0%	Food	250 lbs/bin/3-month cycle.	ESA 1999 Diversion Study; ESA database
Salvage - Hillsborough Unified Schools	0.8	N/A	0.8	0.0%	School goods	1,000 lbs/pickup truck load	ESA 1999 Diversion Study; ESA database
Garage Sales	1.4	N/A	1.4	0.0%	Misc.	0.35 tons/garage sale; CIWMB, Conducting a Diversion Study, A Guide for California Jurisdictions	ESA 1999 Diversion Study; ESA database
Subtotal, Non-Residential Source Reduction	**444.7**	**0.0**	**444.7**	**2.0%**			
Non-Residential Recycling Activities							
Non-Residential Waste Audits*					See Section 9	See Section 9	See Section 9
Other Non-Residential Recycling (list each program separately)							
Commercial Recycling	226.0	N/A	226.0	1.0%	OCC, MP, Bottles & Cans, and plant material for schools and town facilities	NA	BFI MIS Reports for 2000; San Carlos TS & Ox Mountain LF
Subtotal Non-Residential Recycling	**226.0**	**0.0**	**226.0**	**1.0%**			
Non-Residential Composting Activities							
Non-Residential Waste Audits*					See Section 9	See Section 9	See Section 9
Other Non-Residential Composting (list each program separately)						0	
Green waste drop-off	166.0	N/A	166.0	0.8%	Plant material and wood	Assumes 15% of self-hauled green waste reported by BFI is non-residential.	BFI MIS Reports for 2000; San Carlos TS & Ox Mountain LF
Subtotal Non-Residential Composting	**166.0**	**0.0**	**166.0**	**0.8%**			
Subtotal, Non-Residential Diversion	**836.7**	**0.0**	**836.7**	**3.8%**			
Residential/Non-Residential Diversion Activities							
ADC		N/A					
Sludge		N/A					
Scrap Metal		N/A					
Construction and Demolition	5,605.0	N/A	5,605.0	25.7%	OCC, scrap metal, plant material, soil, clean inerts, and unsorted C&D material	None	BFI MIS Reports for 2000; San Carlos TS & Ox Mountain LF; C&D Recycling Coordinator, Town of Hillsborough
Landfill salvage		N/A					
Subtotal Residential/Non-Residential Diversion	**5,605.0**		**5,605.0**	**25.7%**			
Total Res/Non-Res Source Reduction Tons	**553.0**	**285.3**	**838.3**	**3.8%**			
Total Diversion Tons	**11,326.0**	**285.3**	**11,611.3**	**53.2%**			
Total Disposal Tons from Sec.7	**10,213.0**		**10,213.0**	**46.8%**			
Total Generation (Div+Dis)	**21,539.0**	**285.3**	**21,824.3**				
Diversion Rate				**53.2%**			

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Attachment 2b

9. Specific Non-Residential Sector Waste Audits–Top 10 Non-Residential Generators

Please complete this table for the top 10 non-residential generators that were surveyed. List each non-residential generator separately from the largest to smallest, based on total diversion tons. The audit reference number should correspond to the number given your survey sheet.
(Table will perform all calculations).

- Include an attachment, marked "Attachment 9", which includes a summary of all the generators surveyed and all extrapolation calculations used to estimate the diversion rate:
- Include copies of survey sheet(s) used.
- Include for each generator (use type of generator in lieu of specific generator name e.g., grocery store) each specific diversion activity and material type (e.g. cardboard recycling) and the associated tonnage for each diversion activity/material type, and applicable conversion factors/source.
- If using the number of employees for your extrapolation method, include this information for each generator surveyed.
- Please order the non-residential generators, largest to smallest, based on total diversion tons.
- Also, the summary should include the generators that were selected to be surveyed, but did not respond to the survey, and the number of employees at each of these generators.

As a comparison between disposal from the waste audits and DRS, the disposal for each generator must be included in the summary. Also, you should note if the disposal is being used for the extrapolation calculation. For each non-residential generator, the disposal must be broken out by cubic yard, and roll-off or compactor weights. If disposal was estimated for either disposal-based or employment-based extrapolation methods, please include conversion factor(s) for disposal and the source for conversion factor(s). Please provide an explanation as to how the conversion factor(s) is (are) appropriate for your jurisdiction e.g., "Study was conducted to determine average weights using hauler weight tickets."

Type of Non-Residential Generator	Audit Reference Number	Specific Diversion Activities Including Material Type (e.g. paper recycling, grasscycling). (List activities on one line)	Number of Employees	Source Reduction Tons	Recycling Tons	Composting Tons	Total Diversion Tons	Percent of Total Generation (Total Diversion Tons/Total Generation in Section 8)	Survey Method Phone (P) Mail (M) On-site (O) Other ___
Burlingame Country Club	1	Grasscycling, Kitchen Scrap Composting	NA	420		2	422	1.9%	P
Hillsborough Unified Schools	1	Grasscycling, Salvage	NA	21			21	0.1%	P
Totals				441		2	443	2.0%	

Summarize the non-residential diversion activities for the top 10 generators quantification methodology and applicable conversion factors and sources (e.g., cardboard recycling: quantified by monthly tonnage receipts provided by the contact person at the business).

Note that, other than the golf course/country club listed above, there is no commercial sector in the Town of Hillsborough. Tons listed above are based upon information provided by the country club and school district staff. Conversion factors and sources are listed in Section 8.

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Attachment 9 -- Audit Reference Number 1

Feb. 2000 Survey Results

Source	Item	Units type	Units Qty	Units/Year	Lbs/Unit	Tons/Unit	Tons/Year
Burlingame Country Club	Grasscycling	Acre	80	80	10,500	5.25	420.0
Burlingame Country Club	Kitchen scrap composting	Bin	4	16	250	0.13	2.0
Hillsborough Unified Schools	Grasscycling/1/	Acre	6.5	6.5	6,300	3.15	20.5
Hillsborough Unified Schools	Salvage	Pickup truck load	1.5	1.5	1,000	0.50	0.8
TOTAL							443.2

/1/ 60% of grass is grasscycled or composted.

Contacts:

Burlingame Country Club. Manager Hart Huffaker at 650-696-8100. Telephone conversation 2/22/00 at 11:30 a.m.
- Course is on 80 acres of grass, includes fairways, rough, and green tees. Grass is chopped and decomposed. Downed trees are hauled away by Redwood Debris Box, most trees are then mulched.
- Compost roughly 50% of food scraps. Maintain 3 compost stacks and one compost drum; assume 0.5 cubic yards each with a density of 500 lbs/cubic yard for food scraps.

Hillsborough Unified Schools. Rolle Carr, Facilities/Maintenance Manager at 650-342-5193. Telephone conversation 2/22/00. About 60% of grass is grasscycled or composted; grass area equals 6.5 acres. Estimated 1.5 pickup truck loads of material salvaged.

10. On a separate sheet of paper, marked "Attachment 10," provide the following information for each

A. Describe sampling method including:

- Type of sampling method (for either stratified or cluster sampling, provide detailed information on how strata and clusters were collected)
- Total number of samples included in the survey
- Number of non-respondents and respondents
- Total population
- Source for identifying population (e.g., city business licenses, commercial database, resident's addresses, etc)
- Relation of sample size to total population
- Survey data collection tool(s) and approaches
- Confidence level and margin of error for the sampled population
- Unusual outliers and exceptional anomalies describe in detail

Note: *Outliers (specific generators which fall significantly above or below others) should be removed from base amount prior to extrapolation)*

B. Describe the methods used to prevent double-counting between the surveys and the reported tonnages from haulers, recyclers, materials recycling facilities and composters.

C. Describe extrapolation method, including:

- Basis of extrapolation
- Why this extrapolation method is appropriate
- Sources of information used for extrapolation, such as disposal or employment
- Include all calculations

Attachment 10

10. Extrapolation in Section 8 was used for Thrift Stores, in the category of "Other Residential Source Reduction."

A. Sampling Method Description

Telephone interviews of thrift store managers or representatives were conducted as part of a comprehensive diversion study completed in 1999. The Town of Hillsborough and 10 other San Mateo County jurisdictions jointly funded the study. Where a particular organization (e.g., Goodwill Industries) had more than one store in the survey area, the area-wide manager was interviewed. An attempt was made to obtain information from the entire population of stores within the study area. The following describes specific information regarding this thrift store survey.

Total number of samples included in the survey results for which extrapolation was conducted: 14
Number of non-respondents and respondents: 5 non-respondents and 14 respondents
Total population: 19
Source of identifying population: Telephone directory yellow pages, web searches, and directories of recycling/reuse services.
Relation of sample size to total population: 74 percent of total
Survey data collection tool(s) and approaches: Telephone interview using access database survey form to consolidate data.

Confidence level: 80 percent
Precision level: +- 21 at 80 percent confidence level.
Standard deviation: 62.

Regarding outliers (specific generators that fall significantly above or below others, which should be removed from base amount prior to extrapolation): Two large generators were excluded from the average. The average weight was determined to be 46 tons/store/year. The two outliers that were eliminated from the base amount had estimated weights of 3,445 and 3,517 tons/year.

Unusual outliers and exceptional anomalies should be described in detail: N/A. The two large generators that were excluded were not unusual except in terms of the volume of materials handled.

B. Methods Used to Prevent Double-Counting

The thrift store diversion survey pertained to source reduction, specifically the quantities of furniture, clothes, books, and similar materials donated to second hand stores rather than being discarded. As such, donors delivered materials directly to the thrift stores, rather than using an intermediary such as a recycler or hauler who might also report the same material. As part of the survey, respondents were asked to estimate the average percentage of materials received that were not suitable for resale; these quantities were not included in the source reduction totals, as it did not qualify as source reduction and moreover would be included in reported by refuse haulers or landfill operators.

C. Extrapolation Method

The method used for the extrapolation was averaging, based on all but two of the survey respondents (the two large generators that were excluded as outliers). Regarding distribution, we first calculated the origin distribution of the combined tonnage of materials handled by those members of the population who did respond, used this to determine an overall percent distribution for the combined respondents and applied this to estimated tonnage handled by the remaining members of the population. While the precision level is low, indicating that the averages used are not statistically reliable, we believe that not extrapolating the diversion data would result in a minor undercounting of diversion volumes.

Please note that the total volume extrapolated equals just over one percent of the diverted waste stream.

11. For each restricted waste type (i.e., agricultural waste, inert solids [e.g., concrete, asphalt, dirt etc.] scrap metals, and white

a. If the diversion program started on or after January 1, 1990, complete the following table.

Restricted Waste Type	Specific Program Name	Year Started	Tonnage
Inert Solids	C&D Resolution Requiring Waste Reduction Plans and Permits / C&D Recycling Coordinator	Mar-99	4,477
Inert Solids	Transfer Station Diversion	Oct-99	190
Inert Solids	Ox Mountain Diversion	Oct-99	938

b. If the diversion program started before January 1, 1990 - and if documentation on the program and waste type has not been approved by the Board - on a separate sheet marked "Attachment 11b,"give the program and waste type, and provide documentation that indicates:

- How the diversion was the result of a local action taken by the jurisdiction, which specifically resulted in the diversion (PRC sec. 41781.2 [c] [1]).
- That the amount of that waste type diverted from the jurisdiction in 1990 was less than or equal to the amount of that waste type disposed at a permitted disposal facility by the jurisdiction in any year before 1990. **Note:** *this criterion is applicable to the entire jurisdiction, not to individual programs (PRC sec. 41781.2(c)(2)]). Please include documentation.*
- The jurisdiction is implementing, and will continue to implement, the diversion programs in its Source Reduction and Recycling Element

Note: *If documentation for a waste type and program has already been approved by the Board, you do not have to provide an*
Instead, please provide date of Board approval of previous submitted information.) _____ (Date)
If documentation is not available, go to 11d.

c. If the diversion program started before January 1, 1990, and the documentation requested in 11b is available (but not yet

Restricted Waste Type	Specific Program Name	New Base Year or Reporting

d. If the diversion program started before January 1, 1990, and the documentation requested in 11b is not available, please
complete the table below for each program claimed. ***Note:*** *Only the difference between the new base year/reporting*

Restricted Waste Type	Specific Program Name	New Base Year	1990 Diversion	Difference